ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
SOCIO-ECONOMIC FACTORS					
A. General Economics					See Factor Sheet A for detailed evaluation.
No Build Alternative	☒	☐	☐		The no-build alternative contains no provisions for accommodating farm equipment, which is one of the problems of the existing facility. Over time, a diminished transportation facility would adversely affect the local economy.
Alternative No. 1	☐	☒	☐		All build alternatives involve capacity expansion from two lanes to four lanes. An economic benefit of the proposed action is the travel timesavings and improved safety due to reduced delays and congestion.
Alternative No. 2	☐	☒	☐		
Alternative No. 3	☐	☒	☐		Roughly ¼ of the population in the Towns of Greenbush, Empire and Forest are employed in the manufacturing sector. Roughly ¼ of the Town of Empire's population is employed in the educational, health and social services sector.
B. Community & Residential					See Factor Sheet B for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	The no-build alternative contains no provisions for accommodating farm equipment, which is one of the problems of the existing facility.
Alternative No. 1	☐	☐	☒	☐	All build alternatives have the potential of acquiring farmland. The area is rural in nature and most of the land is used for agricultural purposes while there are a few small businesses (gas station, feed mill, used car dealership and mobile home sales) located on STH 23. Farmland preservation is important to residents in the area of the project. Farm homesteads and buildings located next to STH 23 right-of-way may be directly affected. The overall character of the area will not change due to the proposed action. The improvements will better accommodate farm vehicles. No direct impacts to specific residential communities occur with the build alternatives.
Alternative No. 2	☐	☐	☒	☐	
Alternative No. 3	☐	☐	☒	☐	
C. Economic Development and Business					See Factor Sheet C for detailed evaluation.
No Build Alternative	☒	☐	☐	☐	The no-build alternative will not likely increase or decrease the potential for economic development.
Alternative No. 1	☐	☒	☐	☐	All build alternatives involve capacity expansion from two lanes to four lanes. An economic benefit of the proposed action is the travel timesavings and improved safety due to reduced delays and congestion. An enhanced transportation facility would likely increase the potential for business development.
Alternative No. 2	☐	☒	☐	☐	
Alternative No. 3	☐	☒	☐	☐	Alternatives 2 and 3 do not affect as many farmsteads and home based businesses, as does Alternative 1.

ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
D. Agriculture					See Factor Sheet D for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	Existing farm crossings and farm equipment traveling along the existing roadway is a traffic hazard and safety concern.
Alternative No. 1	☒	☐	☐	☐	This alternative will require the taking of **approximately 11 farmsteads** and will take about **130 acres of cropland**.
Alternative No. 2	☒	☐	☐	☐	This alternative will require the taking of **approximately 5 farmsteads** and will take about **170 acres of cropland**. This alternative may severe about 5 farms operations.
Alternative No. 3	☒	☐	☐	☐	This alternative will require the taking of **approximately 3 farmsteads** and will take about **300 acres of cropland**. This alternative may severe about 28 farms operations.
E. Environment Justice					There is no further need for detailed evaluation. Executive Order on Environmental Justice 12898 requires all federal agencies to address the impact of their programs with respect to environmental justice. The Executive Order states that, to the extent practicable and permitted by law, neither minority nor low-income populations may receive disproportionately high or adverse impacts as a result of a proposed project. A population means any readily identifiable group of persons (including low income, minorities, elderly or disabled) who will be similarly affected by a proposed program, policy, or activity.
No Build Alternative	☐	☐	☒	☐	WisDOT attempted to collect and analyze information on the race, color, national origin, and income level of persons located within the project area by checking 2000 census information and with the County Human Services. The search yielded no known minority or low-income communities within the study area. No adverse impact to minority groups or low-income communities is anticipated as a result of this improvement project. The public involvement process described in Section VI, Comments and Coordination, was inclusive of all residents and population groups in the study area and did not exclude any persons because of income, race, color, religion, national origin, sex, age or handicap.
Alternative No. 1	☐	☐	☒	☐	
Alternative No. 2	☐	☐	☒	☐	
Alternative No. 3	☐	☐	☒	☐	

ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
NATURAL ENVIRONMENT FACTORS					
F. Wetlands					See Factor Sheet F for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	No effect.
Alternative No. 1	☒	☐	☐	☐	49 individual sites have been identified with approximately **58 acres of wetlands** would be disturbed in the construction of alternative 1.
Alternative No. 2	☒	☐	☐	☐	43 individual sites have been identified with approximately **52 acres of wetlands** would be disturbed in the construction of alternative 2.
Alternative No. 3	☒	☐	☐	☐	42 individual sites have been identified with approximately **70 acres of wetlands** that would be disturbed in the construction of alternative 3. .
G. Streams & Floodplains					See Factor Sheet G for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	No effect.
Alternative No. 1	☒	☐	☐	☐	Alternative 1 would require an additional bridge crossing of the Sheboygan River and a box culvert crossing of the Mullet River.
Alternative No. 2	☒	☐	☐	☐	Alternative 2 would require an additional bridge crossing of the Sheboygan River and a box culvert crossing of the Mullet River, and a possible bridge crossing of the wetland area between Pit and Triple T roads.
Alternative No. 3	☒	☐	☐	☐	Alternative 3 would require two new crossings of the Sheboygan River, the same Mullet River crossing as Alternate 1 and 2 and the same wetland crossing as Alternate 2.
H. Lakes or Other Open Water					There is no further need for detailed evaluation.
No Build Alternative	☐	☐	☐	☒	There are no lakes or open water resources directly affected by any of the alternatives considered.
Alternative No. 1	☐	☐	☐	☒	
Alternative No. 2	☐	☐	☐	☒	
Alternative No. 3	☐	☐	☐	☒	

ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
I. Upland Habitat					See Factor Sheet I for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	No effect.
Alternative No. 1	☒	☐	☐	☐	?? sites have been identified with approximately **12 acres of uplands** would be disturbed in the construction of alternative 1.
Alternative No. 2	☒	☐	☐	☐	?? sites have been identified with approximately **19 acres of uplands** would be disturbed in the construction of alternative 2.
Alternative No. 3	☒	☐	☐	☐	?? sites have been identified with approximately **31 acres of uplands** that would be disturbed in the construction of alternative 3.
J. Erosion Control					There is no further need for detailed evaluation.
No Build Alternative	☐	☐	☐	☒	No effect.
Alternative No. 1	☒	☐	☐	☐	To protect the drainage areas, streams, and rivers, and to control construction site runoff, construction documents will include detailed sedimentation and erosion control measures. The use of silt fences, turbidity barriers, sedimentation ponds, cofferdams, and the timely mulching and seeding or sodding of roadway slopes and other exposed areas will reduce runoff and siltation for all of the build alternatives. An erosion control implementation plan will be prepared by the contractor and approved by WisDOT before the construction begins. During construction, erosion and sedimentation into adjacent surface waters will be minimized through the strict application of WisDOT's Standard Specifications for Highway and Structure Construction. Timely mulching and seeding or sodding of roadway slopes and other exposed areas would provide long-term erosion control. During construction, techniques such as silt fences, turbidity barriers, bale dikes, temporary interceptor ditches, ditch checks, ditch liners, and sediment ponds would be utilized where possible to minimize erosion. The use of a silt screen below the water level during construction operations in the lake and drainage areas might also be used to reduce siltation. Unstable materials will be disposed of in upland areas, not in wetlands or waterways. Actual in-river construction for any bridge structure would stir up bottom sediment. Re-suspension of the sediments would increase turbidity, release nutrients, and increase the oxygen demand on the river. This type of sedimentation is difficult to control and is an unavoidable impact of bridge construction. However, minimizing the use of in-river construction techniques and through the use of cofferdams and silt screens, and turbidity barriers will reduce sedimentation. Riprap will be placed along the waterline at bridge abutments as necessary to reduce damage caused by erosion or wave action.
Alternative No. 2	☒	☐	☐	☐	
Alternative No. 3	☒	☐	☐	☐	

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
					Use of a granular-type material for fill in the wetlands and adjacent to the streams will also be required as necessary to reduce potential siltation. A permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act will be required for any build alternative on new location. The actual permit status will be determined through coordination with the Corps of Engineers. Any fill associated with crossings of the rivers will be included in the application for the permit for the entire project. A water quality certification from the Wisconsin Department of Natural Resources will also be necessary to comply with Section 401 of the Clean Water Act.
K. Storm Water Management					See Factor Sheet K for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	No effects.
Alternative No. 1	☐	☐	☒	☐	Needs to be written.
Alternative No. 2	☐	☐	☒	☐	
Alternative No. 3	☐	☐	☒	☐	

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ENVIRONMENTAL FACTORS	EFFECTS			COMMENTS
	Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).

PHYSICAL ENVIRONMENT FACTORS

ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	COMMENTS NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).
L. Air Quality				There is no further need for detailed evaluation.
No Build Alternative	☒	☐	☐	
Alternative No. 1	☒	☐	☐	Sheboygan County is within the Interstate Air Quality Control Region as designated under Wisconsin Administrative Code - Chapter NR 404.03. According to the USEPA, Sheboygan County is presently designated as a maintenance area for the 1-hour ozone National Ambient Air Quality Standard, in accordance with the categories of nonattainment specified in the 1990 Clean Air Act Amendment. The project is located outside of a Metropolitan Planning Organization's boundaries. As such, WisDOT is responsible for carrying out air quality conformity analyses for projects in these areas. ***Federal agencies cannot approve or fund transportation projects that are not in conformance with the applicable State Implementation Plan (SIP) for air quality. Per 23 CFR 771.113, the Federal Highway Administration has determined that transportation project approval occurs when one of the following steps are completed: 1) The action has been classified as a categorical exclusion, 2) A FONSI has been approved, or 3) A final EIS has been approved and available for the prescribed period of time and a record of decision has been signed.*** ***Based on the rule cited above, the Department has determined that a conformity analysis is not required for each reasonable alternative carried forward for detailed analysis in the Draft EIS. A conformity analysis will be completed for the preferred alternative identified in the final environmental document.*** We will use the criteria and procedures set forth in the Transportation Conformity Rule Amendments (40 CFR parts 51 and 93) for determining conformity of the preferred alternative. The working framework for conducting the analysis and making a conformity determination is the *Memorandum of Agreement between the Wisconsin Department of Natural Resources and the Wisconsin Department of Transportation Regarding Determination of Conformity of Transportation Projects in Rural Areas to State Implementation Plans.* The final environmental document for this project will not be approved until a positive conformity determination has been made.
Alternative No. 2	☒	☐	☐	
Alternative No. 3	☒	☐	☐	
M. Construction Stage Sound Quality				There is no further need for detailed evaluation.
No Build Alternative	☐	☐	☒	Roadway construction noise is associated with any build alternative. Roadway construction noise can produce relatively short-term, yet severe, impacts for receivers near the construction zone. Construction noise impacts vary significantly with the time of construction, duration of activity, types of equipment used, construction procedures implemented and receiver distances. Typical major construction operations include clearing and grubbing, removing existing pavement, removing any unstable base, removing existing bridges and culverts, constructing new bridges and drainage structures, grading activities, preparing the base and grade, replacing pavement, placing shoulder material,
Alternative No. 1	☒	☐	☐	
Alternative No. 2	☒	☐	☐	
Alternative No. 3	☒	☐	☐	

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
					and landscaping activities. These construction activities occur for various durations during the construction period for the build alternatives. Typical construction equipment used includes chain saws, shredders, pavement breakers, front-end loaders, backhoes, heavy earth-moving equipment, graders, bulldozers, dump trucks, rollers, pile driving equipment, and miscellaneous equipment. Noise generated by construction equipment varies greatly, but typical noise level ranges are predictable at any given distance and are listed in the table ????. Variations in building setbacks, land use activity zones, local intensity of specific construction activities, and special temporal distribution will result in varying degrees of exposure to construction noise and therefore varying impacts. Adverse impacts resulting from construction noise are expected to be localized and temporary. **Section V**, Commitments to Minimize and Mitigate Impacts, explains the mitigative measures considered for traffic and construction noise.

ENVIRONMENTAL
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ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
N. Traffic Noise					There is no further need for detailed evaluation.
No Build Alternative	☒	☐	☐		Under the No-Build Alternative, noise levels will continue and likely increase as traffic volumes increase
Alternative No. 1	☒	☐	☐		The criteria defining traffic noise impacts have been established by WisDOT through Wisconsin Administrative Code - Chapter Trans 405, Siting Noise Barriers (Trans 405). Traffic noise impacts occur when the predicted equivalent sound levels approach or exceed the noise level criteria (NLC) established for a type of land use, or, when predicted sound levels substantially exceed existing levels. WisDOT has determined "approach" to be defined as 1 dBA less than the NLC. WisDOT has determined "substantial increase" to be 15 dBA or more than existing levels. Trans 405 was approved as WisDOT's written policy by FHWA on February 29, 1996. The NLC established as part of Trans 405 are shown in **Table IV-2**, below. Noise impacts for the various alternatives are compared based on the number of receptors that approach or exceed the activity category and/or experience a substantial increase. WisDOT defines noise receptors as "lower-level, front-abutting units" that receive highway noise.
Alternative No. 2	☒	☐	☐		
Alternative No. 3	☐	☐	☐		

CULTURAL ENVIRONMENTAL FACTORS

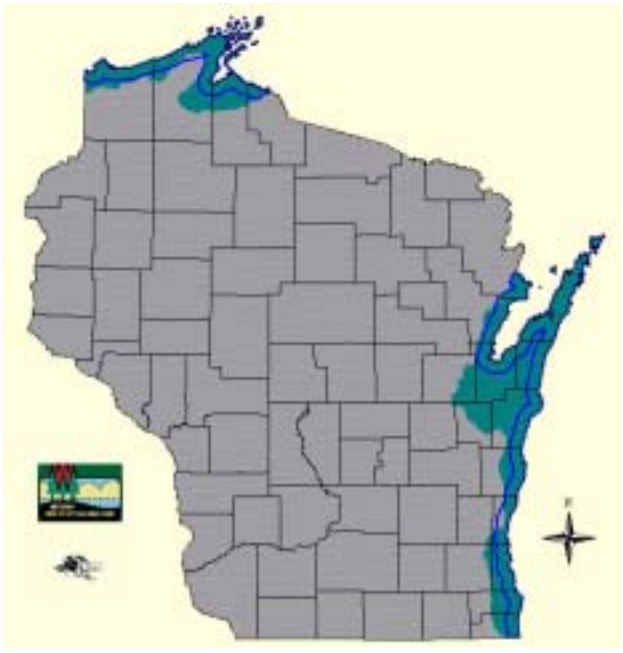
O. Section, 4(f) and 6(f)					See Factor Sheet O for detailed evaluation.
No Build Alternative	☐	☐	☒	☐	No effects.
Alternative No. 1	☒	☒	☐	☐	All build alternatives follow effect the following properties: The Northern Unit of the Kettle Moraine State Forest The Ice Age National Scenic Trail
Alternative No. 2	☒	☒	☐	☐	The State Equestrian Trail The Old Plank Road Trail
Alternative No. 3	☒	☒	☐	☐	The Old Wade House State Park

ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
P. Historic Resources					See Factor Sheet P for detailed evaluation.
No Build Alternative	☐	☐	☐	☒	No effects.
Alternative No. 1	☒	☐	☐	☐	There are 3 sites that may need determination of eligibility for Historic significance on Alternate 1.
Alternative No. 2	☒	☐	☐	☐	There are 4 sites that may need determination of eligibility for Historic significance on Alternate 2.
Alternative No. 3	☒	☐	☐	☐	There are 2 sites that may need determination of eligibility for Historic significance on Alternate 3.
Q. Archaeological Resources					See Factor Sheet Q for detailed evaluation.
No Build Alternative	☐	☐	☒		No effects.
Alternative No. 1	☒	☐	☐		There are 5 archaeological sites potentially eligible for Phase 2 on Alternate 1.
Alternative No. 2	☒	☐	☐		There are 9 archaeological sites potentially eligible for Phase 2 on Alternate 2.
Alternative No. 3	☒	☐	☐		There are 12 archaeological sites potentially eligible for Phase 2 on Alternate 3.
R. Hazardous Substances or UST's					See Factor Sheet R for detailed evaluation.
No Build Alternative	☐	☐	☐	☒	
Alternative No. 1	☐	☐	☒	☐	There are 12 **AST** (Aboveground Storage Tank) sites along Alternate 1 and 2.
Alternative No. 2	☐	☐	☒	☐	There are 2 **LUST** (Leaking Underground Storage Tank) sites along Alternates 1 and 2.
Alternative No. 3	☐	☐	☒	☐	There are 2 **UST** (Underground Storage Tank) sites along Alternates 1 and 2. There are 6 **AST** sites along Alternate 3. There is one **LUST** site on alternate 3.

ENVIRONMENTAL EVALUATION MATRIX

ENVIRONMENTAL FACTORS	EFFECTS Adverse	Benefit	None	NOT Applicable (Blacked out cells in this column require a check in at least one of the other columns).	COMMENTS
S. Aesthetics					See Factor Sheet S for detailed evaluation.
No Build Alternative	☐	☐	☒		No change.
Alternative No. 1	☒	☐	☐		Alternate 1 would increase the width of highway right-of-way on average of about 125. The increased highway would diminish the visual character of the area and countryside.
Alternative No. 2	☒	☐	☐		Alternate 2 would impact much of the same character as Alternate 1, with the addition of building about 4 miles of four-lane highway in an area minimally disturbed before.
Alternative No. 3	☒	☐	☐		Alternate 3 would disturb the most farmland and countryside of the three build alternatives. About a third of the impacts would be the same as Alternate 1. About half of the impacts would be the same as alternate 2.
T. Coastal Zone					The project's effects do not extend into or affect any of the Coastal Zone Management Areas of Special Concern.
No Build Alternative	☐	☐	☒	☐	
Alternative No. 1	☐	☐	☐	☒	
Alternative No. 2	☐	☐	☐	☒	
Alternative No. 3	☐	☐	☐	☒	



This graphic of the State of Wisconsin illustrates the Coastal Wetlands Project Study Area. Green shaded areas are the Coastal Zone, and blue lines represent a six-mile buffer from the coasts.